PROFILE

Innovative data scientist, policy analyst and researcher with a PhD and 13 years of experience leading research and consultancy projects for international organisations on topics ranging from sustainable development to globalisation.

Statistical software developer and researcher with ~30 academic publications (~2600 citations, h-index 21).

I love working with others to solve practical problems with cutting edge methods. I'm a lifelong learner who is eager to take on the next challenge.

CONTACT

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WILLIAM BECKER

Data scientist, policy consultant

WORK EXPERIENCE

ECMWF: Training specialist in machine learning

May 2024 – present, Bonn, Germany

Designing and managing an international training programme for machine learning (ML) in weather and climate at the European Centre for Medium-Range Weather Forecasting. Duties include:

- Mapping user needs in ML and AI
- Initiating procurements, managing contracts
- Project management
- Liaising with stakeholders in national and European institutions
- Coordinating between a variety of stakeholders: technical scientists, communications, external contractors and others

Data science/policy consultant

Oct 2020 – May 2024, Ispra, Italy

Statistical, software and data research for international organisations. Led projects from client/stakeholder engagement and workshops up to web visualisation. Contracts include:

- Maintaining and uncertainty modelling of global GHG emissions database for European Commission (JRC)
- Full stack development of statistical web app for community-based protection data analysis for UNCHR
- Statistical analysis of European impact assessments for JRC
- Senior lead expert on Quality Infrastructure for Sustainable Development, United Nations Industrial Development Organisation.
- Trend analysis and development of bioeconomy monitoring framework for JRC
- Innovation modelling for the World Intellectual Property Organisation (Global Innovation Index)
- Development of R package for composite indicators for JRC + E- book
- Development of web app for prioritising interventions for the Foundation for innovative new [medical] diagnostics
- Update and revision of European Skills Index for CEDEFOP

EC – Joint Research Centre: Policy analyst, researcher

Feb 2011 – Mar 2020, Ispra, Italy

Contractual agent (FGIV) and postdoctoral researcher leading data-driven projects supporting European policy making and tracking global trends for the European commission and international organisations.

- Research in statistics and machine learning.
- Applications in sustainable development, globalisation, econometrics, impact assessment and a wide range of scientific computer models.
- Worked extensively with many different parts of the European Commission, European agencies, and other international organisations.
- Supervised junior staff members
- Led international training courses, summer schools

EDUCATION

The University of Sheffield, UK

Nov 2006 – Feb 2011

PhD in Mechanical Engineering and applied machine learning and Bayesian stats. Thesis entitled: *Uncertainty propagation through large nonlinear models*.

- Built biomechanical model of a human heart valve + structural models of airships.
- Applied novel machine learning techniques for uncertainty analysis.
- Included one year as a visiting researcher in Turin, Italy.

The University of Sheffield, UK

Oct 2002 – June 2006

MEng in Mechanical Engineering with Spanish. Included one year as an Erasmus student at the University of Seville, Spain. Modules including: Signal Processing, Condition Monitoring, Computer Modelling and Validation, Solar and Wind Energy, Nuclear Reactor Engineering and Spanish Foreign Languages at Work (FLAW) to level 4.

ACADEMIC

Selected publications

Why so many published sensitivity analyses are false: A systematic review of sensitivity analysis practices [640 citations] https://doi.org/10.1016/j.envsoft.2019.01.012

Weights and importance in composite indicators: Closing the gap [430 citations] https://doi.org/10.1016/j.ecolind.2017.03.056

Exploring ASEM sustainable connectivity: What brings Asia and Europe together? [flagship policy report] https://dx.doi.org/10.2760/738153

I have around 30 journal publications, as well as book chapters, conference papers, and many technical reports.

Other

- Founder of international AESCON conference
- Scientific committee member of several conferences
- Keynote speaker in international conferences on sensitivity analysis and modelling
- Reviewer for 17 different journals
- Wide professional/academic network

INTERESTS

My non-professional interests include:

- Playing guitar
- Skiing
- Creative writing, storytelling
- Cooking
- Sustainable living: growing food + Repair Café founder in Italy
- Construction
- Hiking
- Swimming

KNOW MORE

All my projects, publications and a little more about who I am can be found at www.willbecker.me

SKILLS

Technical

- Stats, ML, Bayesian methods
- R expert (package development, shiny apps)
- Software development (CI/CD, unit testing, Git, Github)
- Matlab (15+ yrs experience)
- Python, SQL
- Excel + power query, MS Office
- LaTeX, Markdown
- Web dev. (Hugo, blogdown)

Other

- Excellent communicator (written and verbal)
- Led and designed numerous training courses
- Client engagement
- Stakeholder consultation
- Project and contract management
- Fast worker, both independently and in a team
- Quick to adapt and learn